

CLAIMS

1. A liquid crystal device comprising:
 - (a) a front electrode layer;
 - (b) a rear electrode layer;
 - 10 (c) a liquid crystal material located between said front electrode layer and said rear electrode layer;
 - (d) a polarizer located between said liquid crystal material and the front electrode layer;
 - (e) changing an electrical potential between said rear electrode layer and said front electrode layer to selectively modify portions of said
15 liquid crystal material to change the polarization of the light incident thereon;
 - (f) a plurality of light sensitive elements located together with said rear electrode layer; and
 - 20 (g) a processor that determines the position of at least one of said plurality of light sensitive elements that has been inhibited from sensing ambient light.
2. The device of claim 1 wherein it is free from a cover plate exterior to a
25 supporting element for said front electrode layer.

5 3. The device of claim 1 wherein each of said light sensitive elements include
a transistor.

 4. The device of claim 3 wherein each of said light sensitive elements
includes a first transistor that senses ambient light, and a second transistor that is
10 inhibited from sensing ambient light with respect to said first transistor.

 5. The device of claim 4 wherein at least one of said first transistor and said
second transistor is a thin-film transistor.

15 6. The device of claim 5 wherein said thin-film transistor includes
amorphous silicon.

 7. The device of claim 4 wherein a terminal of said first transistor is
connected to a terminal of said second transistor with a first conductor.

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 8. The device of claim 7 wherein said first conductor is capacitively coupled
to a common line.

 9. The device of claim 8 wherein said common line has a voltage potential
25 less than said first conductor.

5 10. The device of claim 1 wherein said device is an active matrix liquid crystal device.

11. A liquid crystal device comprising:

(a) a front electrode layer;

(b) a rear electrode layer;

10 (c) a liquid crystal material located between said front electrode layer and said rear electrode layer;

(d) changing an electrical potential between said rear electrode layer and said front electrode layer to selectively modify portions of said liquid crystal material to change the polarization of the light incident thereon;

15 (f) a plurality of light sensitive elements located within said display, wherein a plurality of said light sensitive elements are capable of sensing ambient light, wherein at least one other of said light sensitive elements is substantially inhibited from sensing ambient light;

20 (g) a processor that determines at least one of said plurality of light sensitive elements capable of said sensing ambient light that has been temporarily inhibited from sensing ambient light;

25 (h) said processor determines the position of the output of said at least one other of said light sensitive elements said substantially

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inhibited from sensing ambient light, and based upon said output
modifying the sensing of other light sensitive elements.

12. The device of claim 11 wherein said light sensitive elements said
substantially inhibited from sensing ambient light are transistors.

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13. The device of claim 12 wherein said transistors are arranged in a row.

14. The device of claim 12 wherein said transistors are arranged in a column.

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15. The device of claim 12 wherein said output of said at least one other of
said light sensitive elements said substantially inhibited from sensing
ambient light is a black current.

16. A liquid crystal device comprising:

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- (a) a front electrode layer;
- (b) a rear electrode layer;
- (c) a liquid crystal material located between said front electrode layer
and said rear electrode layer;
- (d) changing an electrical potential between said rear electrode layer
and said front electrode layer to selectively modify portions of said

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5 liquid crystal material to change the polarization of the light
incident thereon;

(e) a plurality of light sensitive elements located within said device;

(g) a processor that determines the position of at least one of said
10 plurality of light sensitive elements that has been inhibited from
sensing ambient light; and

(h) a sensor that senses an impact with said device.

17. The device of claim 16 wherein said sensor is a pressure sensor.

15 18. The device of claim 16 wherein said sensor at least one of a vibration
sensor and an accelerometer.

19. The device of claim 16 wherein said sensing from said sensor is used to
determine that a user has touched said device.

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20. The device of claim 16 wherein said sensing from said sensor is used to
determine that a user has not touched said device.

21. The device of claim 16 wherein each of said light sensitive elements
25 include a transistor.

5 22 The device of claim 21 wherein each of said light sensitive elements
includes a first transistor that senses ambient light, and a second transistor that is
inhibited from sensing ambient light with respect to said first transistor.

 23. The device of claim 22 wherein at least one of said first transistor and said
10 second transistor is a thin-film transistor.

 24. A liquid crystal device comprising:

 (a) a front electrode layer;

 (b) a rear electrode layer;

15 (c) a liquid crystal material located between said front electrode layer
 and said rear electrode layer;

 (d) changing an electrical potential between said rear electrode layer
 and said front electrode layer to selectively modify portions of said
 liquid crystal material to change the polarization of the light
20 incident thereon;

 (e) a plurality of light sensitive elements located within said device;

 (g) a processor that determines the position of at least one of said
 plurality of light sensitive elements that has been inhibited from
 sensing ambient light; and

5 (h) a lens located in front of at least one of said light sensitive
elements to focus light impacting thereon on said at least one of
said light sensitive elements.

25. The device of claim 24 further comprising a filter located between said
10 light sensitive elements and the front of said display that inhibits ambient light from
reaching said light sensitive elements.

26. A liquid crystal device comprising:

- 15 (a) a front electrode layer;
- (b) a rear electrode layer;
- (c) a liquid crystal material located between said front electrode layer
and said rear electrode layer;
- (d) changing an electrical potential between said rear electrode layer
and said front electrode layer to selectively modify portions of said
20 liquid crystal material to change the polarization of the light
incident thereon;
- (e) a plurality of light sensitive elements located within said device;
- (g) a processor that determines the position of at least one of said
plurality of light sensitive elements that has been inhibited from
25 sensing ambient light; and

5 (h) a filter located between said light sensitive elements and the front
of said display that inhibits ambient light from reaching said light
sensitive elements.

27. The device of claim 26 further comprising a lens located in front of at least
10 one of said light sensitive elements to focus light impacting thereon on said at least one of
said light sensitive elements.

28. The device of claim 27 wherein said filter is located in front of said liquid
crystal material.

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